CLAIMS

1. A method of fabricating a substrate used for purifying the exhaust gas, comprising:

the step of forming a pre-mold including a first end, a second end, a plurality of partition walls extending between the first end and the second end, and a plurality of passages defined by the plurality of the partition walls;

the first transforming step for transforming the ends of the partition walls at the first end of the pre-mold defining one of each two adjacent passages in such a manner that the ends of the partition walls are collected toward the center of the corresponding passage and connected to each other; and

the second transforming step for transforming the ends of the partition walls at the first end of the pre-mold in such a manner that the end surface of each of the partition walls at said first end of said pre-mold is depressed toward the center of the end surface.

2. A method according to claim 1, wherein the first transforming step and the second transforming step are executed at the same time.

3. A method according to claim 1, wherein the second transforming step is executed after the first transforming step.

4. A method according to claim 1, wherein the amount of transformation of the partition wall ends in the first transforming step is smaller than the minimum amount required to close up a corresponding passage with the same partition wall ends, and the amount of transformation of the partition wall ends in the second transforming step is equal to the difference between said minimum required amount and the transformation amount of the partition wall ends in the first transforming step.

5. A method according to claim 1, wherein the amount of transformation of the partition wall ends in

the first transforming step is smaller than the minimum amount required to close up a corresponding passage with the same partition wall ends, and the amount of transformation of the partition wall ends in the second transforming step is larger than the difference between said required minimum amount and the transformation amount of the partition wall ends in the first transforming step.

6. A method according to claim 1, wherein the cross section of the passages is a square and the partition wall ends closing the corresponding passages each form a portion in the shape of a substantially regular rectangular pyramid.

7. A method according to claim 1, wherein the cross section of the passages is a regular triangle and the partition wall ends closing the corresponding passages each form a portion in the shape of a substantially regular hexagonal pyramid.

8. A method according to claim 1, wherein the pre-mold is formed of a porous material.

9. A method according to claim 1, further comprising the third transforming step for transforming the partition wall ends at the second end of the pre-mold defining the other of the two adjacent passages in such a manner that the partition wall ends are collected toward the center of the corresponding passage and connected to each other, and the fourth transforming step for transforming the partition wall ends at the second end of the pre-mold in such a manner that the end surfaces of the partition walls at the second end of the pre-mold are depressed toward the center of the end surface.

10. A method according to claim 9, wherein the first transforming step and the second transforming step are executed at the same time, and the third transforming step and the fourth transforming step are executed at the same time.

11. A method according to claim 9, wherein the

second transforming step is executed after the first transforming step, and the fourth transforming step is executed after the third transforming step.

12. A method according to claim 9, wherein the amount of transformation of the partition wall ends in the first transforming step is smaller than the minimum amount required to close up the passages with the partition wall ends, the amount of transformation of the partition wall ends in the second transforming step is equal to the difference between the required minimum amount and the transformation amount of the partition wall ends in the first transforming step, the amount of transformation of the partition wall ends in the third transforming step is smaller than the minimum amount required to close up the passages with the partition wall ends, and the amount of transformation of the partition wall ends in the fourth transforming step is equal to the difference between the required minimum amount and the transformation amount of the partition wall ends in the third transforming step.

13. A method according to claim 9, wherein the amount of transformation of the partition wall ends in the first transforming step is smaller than the minimum amount required to close up the passages with the partition wall ends, the amount of transformation of the partition wall ends in the second transforming step is larger than the difference between the required minimum amount and the transformation amount of the partition wall ends in the first transforming step, the amount of transformation of the partition wall ends in the third transforming step is smaller than the minimum amount required to close up the passages with the partition wall ends, and the amount of transformation of the partition wall ends in the fourth transforming step is larger than the difference between the required minimum amount and the transformation amount of the partition wall ends in the third transforming step.

14. A substrate used for purifying the exhaust gas, comprising:

a first end;

a second end;

a plurality of partition walls extending between the first end and the second end; and

a plurality of passages defined by the plurality of the partition walls;

wherein the ends of a plurality of the partition walls at the first end of the substrate defining one of each two adjacent passages are collected toward the center of a corresponding passage and connected with each other, the end surface of the partition wall ends at the first end of the substrate being depressed toward the center of the end surface; and

wherein the ends of a plurality of the partition walls at the second end of the substrate defining the remaining one of the two adjacent passages are collected toward the center of the corresponding passage and connected with each other, the end surface of the partition walls at the second end of the substrate being depressed toward the center of the end surface.

15. A substrate according to claim 14, wherein the cross section of the passages is a square in shape and the partition wall ends closing the corresponding passages form a portion substantially in the shape of a regular rectangular pyramid.

16. A substrate according to claim 14, wherein the cross section of the passages is a regular triangle in shape and the partition wall ends closing the corresponding passages form a portion substantially in the shape of a regular hexagonal pyramid.

17. A substrate according to claim 14, wherein the substrate is formed of a porous material.